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MINISTER REPORTS ACHIEVEMENTS OF USSR PETROLEUM INDUSTRY

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The USSR petroleum industry completed the 1951 state plan on 28 December and achieved a 1951 output 12 percent higher than in 1950 for crude petroleum, 20 percent higher for gasoline, and 45 percent higher for diesel fuel.

An extensive exploratory drilling program has been carried out, resulting in the opening up of rich petroleum deposits in new regions and greatly increasing the explored industrial supplies of petroleum. By 1949, the area covered by new petroleum exceeded many times the area of deposits which had been explored by 1940. At present, the number of exploratory wells over 2,000 meters in depth is more than six times that of 1940, and exploratory wells up to 3,000 meters deep are being drilled on a wide scale.

The Soviet government is investing large amounts of funds in petroleum deposit exploratory work, increasing the sum each year. In 1951, the volume of capital investment in geological and exploratory work was 25.5 percent above that of 1950.

Turbodrilling increased more than ten times during the postwar Five-Year Plan and is the method now used in more than half the exploitational areas. The effectiveness of turbodrilling consists, first of all, in stepping up sharply the productivity of drilling bridges in areas with very hard rock. The Bashkir ASSR is typical of such an area. Here, during the postwar period, the mechanical speed in drilling rock increased seven to eight times above 1940. Skilled drillers now drill an oil well to a depth of 1,700 meters in 1.5-2 months, whereas it used to take up to a year in the prewar period. Some outstanding bridges drill wells here at a speed of 1,000 meters or more per machine-month.

In Krasnokamsk, drilling wells to a depth of 1,000 meters took more than 5 months in prewar times, but technical progress in rock-drilling methods has speeded up the process to an average of one month, in many cases, to 20 days.

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During the postwar Five-Year Plan, productivity in drilling has increased four times in Krasnokamsk and turbodrilling is the only method used there at present. One expert driller achieved a record in 1950 by drilling six oil wells, in well No 107, he reached the speed of 1,500 meters per machine-month, an unprecedented speed for Krasnokamsk.

In 1951, drilling speed in the Buzovnyneft' Trust of the Azneft' Association was more than 2,200 meters per machine-month, or more than two and a half times that of 1946. One well 1,900 meters deep was drilled at a speed of 5,211 meters per machine-month. In 1951, mass drilling of wells by the forced method in the Bashkir and Tatar ASSRs brought about a 40-percent increase in the drilling speed and caused a 19-percent decrease in the costs of drilling, effecting, in these two areas alone, a saving of more than 13 million rubles.

In 1941, Soviet scholars and specialists worked out and collaborated with expert drillers in introducing the new, highly effective method of drilling sloping, directional wells in Baku. This method was widely adopted in many areas of the USSR in the postwar years. Hundreds of deep, sloping wells have been drilled under mountains, rivers, and major construction developments, and millions of tons of additional petroleum have been delivered to the country. Progress in drilling techniques has made it possible to work the rich petroleum deposits beneath the Caspian Sea. At present, several sloping wells are drilled from one base in the open sea.

Expert driller Gadzhi Temirkhanov in Baku drilled well No 3148, a deep, sloping well, at a speed of 987 meters per machine-month, completing his norm 364.8 percent, and put the well into operation 28 days ahead of schedule. Expert driller Nasrulayev of the Molotovneft' Trust in Baku drilled well No 1038, also a deep sloping well, at the speed of 1,254 meters per machine-month and put the well into operation 27 days ahead of schedule. Expert driller Aga Neymatulla drilled tens of deep, sloping wells in the open sea at a speed considerably exceeding, in a number of cases, the speed of drilling ordinary wells. Expert driller Arutyunov, in drilling a sloping well, achieved a record speed of 2,470 meters per machine-month, with a mechanical speed of 27.4 meters per hour, although the average mechanical speed for similar wells did not exceed 3.5 meters per hour. A speed of more than 1,000 meters per machine-month in drilling sloping wells has become the usual thing in Krasnokamsk.

Investigations of Soviet scholars have indicated that contoural flooding assures maintenance of steady pressure in the petroleum stratum, a high output from the oil wells, and an increase in the length of time between periods of oil well repair.

At the beginning of the postwar Five-Year Plan, many deep wells in old petroleum deposits were difficult to exploit because of the lack of exploitational equipment suitable to work at depths of 1,500-2,000 meters. Soviet specialists have solved this problem and hundreds of wells have been put into operation with deep-well pumps suspended to a depth of 1,500-2,000 meters and it has become possible to convert wells from the compressor method to the deep-well pump method. This has greatly decreased petroleum extraction costs.

Thousands of oil wells in the Azneft' Association and in other petroleum regions of the country have been equipped with new, powerful reducing-gear pumping jacks which have led to an improvement in the work methods of the oil wells and an increase in labor productivity.

The rapid development of Soviet industry, transport, and agriculture has placed tremendous demands on the petroleum-refining industry. There has been a sharp increase in the capacity of the petroleum-refining industry in postwar years and amounts of light-colored petroleum products and oils obtained from

crude petroleum have increased greatly. Work on construction and enlargement of petroleum refineries has developed on a wide scale. The new plants put into operation in 1951 alone can process 6 million tons of petroleum yearly.

In the postwar Five-Year Plan, a tremendous amount of work was done on modernization and technical reconstruction of many installations used for petroleum refining and cracking, bringing about a rise in labor productivity, an increase in the output of petroleum products, and a decrease in production costs.

Considerable progress has been achieved in Baku petroleum refineries, where introduction of the best technological methods has led to an increase in the productivity of the installations and a larger output of light-colored petroleum products from crude petroleum. The technology of producing new and valuable high-octane products as well as a number of other petroleum products has been mastered.

Soviet alkylating installations of a new type and new processes for producing high-grade aviation, automobile, and tractor fuels and oils indicate the technical level achieved in petroleum refining.

One of the most important postwar developments in the petroleum-refining industry has been a working out and utilization of a process for refining petroleum with a high sulfur content and expansion in the variety of petroleum products derived from sulfurous petroleum.

The most important tasks facing petroleum refineries today are further development in the techniques and technology of petroleum refining, extensive employment of catalytic processes for obtaining gasolines, use of mazut and gudron to obtain light-colored petroleum products, and introduction of selective methods for production of high-grade oils. Further re-equipment of the plants must be continued and the variety as well as the output of petroleum must be increased.

In the postwar period, mass production of various types of equipment, formerly not produced in the USSR, was begun in machine-building plants: power-driven drilling machines, diesels for drilling deep and extra deep wells, different types of pumps for pumping hot petroleum products, deparaffination installations, and many other types of equipment, apparatus, and instruments. Plants of the heavy machine-building industry and the transport machine-building industry have rendered great assistance to the petroleum industry. In 1951, the output of petroleum machinery for plants attached to the Ministry of the Petroleum Industry reached seven times the 1940 level, including drilling machines, twice, derricks, three times; and three-roller bits, four times.

The petroleum industry of the USSR no longer needs to import petroleum equipment. This is one of the most important achievements of the postwar years. A large native base for petroleum equipment has been created which will contribute to the further development of the industry and will increase the speed in drilling, extraction, and refining of petroleum.

The petroleum industry has at its disposal an extensive construction industry to build refineries and installations, petroleum and gas pipelines, and petroleum machine-building plants, as well as roads, cities, and settlements for oil-field workers.

Capital investment in construction in the petroleum industry amounts to billions of rubles each year. In 1951, the volume of construction and installation work in the petroleum industry was 25 percent above 1950. The capacities of petroleum refining and petroleum machine building have been greatly raised, new petroleum and gas pipelines have been constructed, and new oil fields have been developed.

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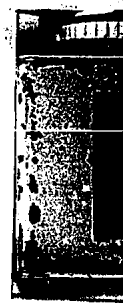
Among the tasks facing the petroleum industry is the elimination of shortcomings which occur in the work of many oil fields and enterprises. In many drilling offices work is unsatisfactorily organized, particularly for distant exploration. Many drilling offices permit drilling machines to be idle for long stretches of time, which brings about a reduced speed in drilling and excessive expenditure of funds.



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